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AUTHOR Capie, William R.; Butts, David P.
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ABSTRACT

A rationale for using teacher performance as the best source for evaluating science teachers is developed. Examples of observational techniques which vary in specificity are analyzed in terms of their appropriateness for the amount of structure and/or the degree of realism. (MH)

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EVALUATING TEACHERS USING TEACHER PERFORMANCE

William R. Capie
and
David P. Butts
Department of Science Education
University of Georgia

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William R. Capie
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The University of Georgia

Evaluating teachers implies setting a value on the teacher's performance. Such decisions are expressed in different ways (e.g., satisfactory-unsatisfactory; good-bad; effective-ineffective). In each instance evaluation occurs as the teacher's performance is compared to an accepted standard. These standards may be well articulated and explicit or intuitive and undefined. Many dimensions of the teachers' performance may be included or explored.

The teacher's performance is one controlling influence on how and what their students learn. Teachers can choose material that is appropriate for their students and teach it in ways that fit their students' needs. Distinguishing between what a teacher controls and what they do not control is essential in evaluating teaching behavior. However, it should be noted that these choices are not always controlled by the teacher. Some schools have expectations about what is to be taught and how it is to be taught. Language arts and mathematics programs frequently have explicit expected outcomes in elementary schools. Their content and methods are well specified. While there are science programs which are equally well developed, rarely are the expected science learnings part of the "basics" for elementary schooling or scheduling. Another uncontrolled element for the teacher in science instruction is availability of materials. Some teachers are blessed with a wealth of supplies and materials, others have none.

Teachers should be held accountable for those factors they control when their performance is being evaluated. Clearly they control their own teaching performance, i.e., the set of actions or strategies they use to control the learning environment and facilitate learning. Describing and evaluating teacher performance is useful for both formative and summative teacher evaluation.

Summative evaluation includes such instances as the termination of student teaching and the granting of tenure or recertification. An evaluator can determine if the teacher uses instructional techniques and organization strategies which are likely to produce desired student outcomes. At the same time, evaluators can determine if a teacher is employing strategies which are related to other parallel, desirable outcomes (e.g., attitudinal changes). Such evaluation implies summative decisions which are relatively infrequent in a teacher's career.

Another illustration of the usefulness of summative evaluation of teachers is placement. A profile of teaching performance can be a tool for matching teachers with compatible students and situations. For example, a growing body of research shows that quite distinct teaching techniques are appropriate for higher and lower-ability learners (Brophy, 1976; Berliner, 1976). A teacher might produce good results with one group of students but not another. Thus, with descriptive profiles, administrators can place teachers in situations where they have the greatest likelihood of their success.

Formative evaluation of a teacher's performance is useful both to the experienced teacher and the preservice teacher. Diagnostic profiles of a teacher's performance can and should be used to help teachers improve

their teaching. If supervisors of student teachers or experienced teachers can help to construct a diagnostic profile of the teaching performance, there is a real basis for working to change the teaching behavior. Because this diagnostic or formative potential of teacher evaluation data is so common, the benefits in planning individualized teacher training activities can be enormous.

Teaching performance can be observed and described and compared with acceptable standards. A profile of teaching performance can be useful to teachers who are wanting to improve their performance, to supervisors who are attempting to help teachers in the most appropriate teaching situations. A commitment to use descriptive profiles accents the need for determining the best means for gathering data. Data should describe what teaching behaviors are used and also the contexts where each is employed.

Describing both the behavior and the context of that teaching behavior may be costly to both the teacher and the evaluator if this process requires large amounts of observations of intact instructional contexts. A substantial investment of time and resources must be committed. Thus the practicality of available resources may itself preclude evaluation or other description by means of a profile development.

Two alternatives are possible if evaluation and decisions about teaching behavior must be made. In the absence of full observation-based documentation, decisions may be based on hunches and "expert opinions." Another alternative is to look more closely at the information needed and to structure situations which will permit observation of pertinent teaching behavior. Two aspects of the observation of teaching behavior that can be controlled are -- control of task and control of people. The task to be

observed can range from the natural instructional setting to a setting within which the topic, objectives and learning activities are pre-selected for the teacher. The people in the context can range from the natural intact instructional group to microteaching or low-ratio setting with smaller numbers of pupils or to simulated activities with no pupils present. While these "controls" are not natural, they do permit teachers and observers to focus on the particular teaching behavior of interest.

CONTROL OF TASK					
	Preselected Topic Obj. Learn. Act.				
	Preselected Topic Obj.				
	Preselected Topic				
	Open				
		1. Natural	2. Microteaching	3. Low-Ratio	4. Simulation

CONTROL OF PEOPLE

FIGURE ONE
CONTROLS FOR OBSERVING
TEACHING BEHAVIOR

CONTROL OF TASK

The context of the teaching represents a significant factor that may impose restrictions on a teacher's performance. This context may range from a completely natural classroom setting with no predetermined structure other

than what the teacher has in progress at the time of the observation. From these observations, the teacher's total performance can be documented. While the naturalness of such a context has many positive features, it does contain a serious problem in attempting to isolate variables of a teacher performance that may be characteristic to a teacher over time or between teachers.

The task may be controlled in three ways: preselect topic, preselect topic and objectives or preselect topic, objectives and learning activities.

Preselected Topic Obj. Learn. Act.	What kinds of verbal variety do I use in instruction?
Preselected Topic Obj.	What variety of learning activities do I use?
Preselected Topic	What kinds of learning expectation or planning do I use?
Open	How "with it" am I as a teacher?

FIGURE TWO

CONTROL OF TASK

One way of providing a degree of commonality to a teaching task is to predetermine the topic or content of instruction. With the same topic, similarities and differences in organizing and conducting instruction can be compared. Thus the teacher's performance in defining the expectations of students with their interests can be studied. What a teacher is expecting students to do with a topic itself can represent a substantial source of variability.

A second restriction to the context that enables the observer to control some of the variance of teacher performance is to predetermine both the topic and the description of expected student behavior, the objectives. With a common topic and expectations, the observer will be able to analyze the learning experiences the teacher selects to enable students to reach the instructional goals. Within a given topic and set of expectations, a wide range of learning experiences can be used. All teachers in the study would be using a common topic and objectives but could vary the learning activities selected.

A third restriction to the context is to add specific common learning activities to the predetermined topic and objectives. These common elements enable the observer to compare those dimensions of teacher performance that focus mainly on their interaction with students.

The amount of structure in the task should depend on the purpose of the observer. Thus, for example, how much structure depends on what question is being asked.

1) Do you wish description of teacher interaction with students? (Then specify the topic, objectives and learning experiences.)

2) Do you wish to observe the variability a teacher demonstrates in selecting learning experiences to match student needs? (Then specify topic and objectives.)

3) Do you wish to analyze a teacher's performance in matching contexts to the expectations of students' capabilities or interests? (Then specify only the topic.)

4) Do you wish to describe a teacher's total performance or "withitness"? (Then provide no prespecifications -- use the natural instructional context.)

CONTROL OF PEOPLE

While the task of teaching is recognizable as a source of variance, the people in that teaching context are another source of variability. Most

teaching occurs with groups of students. The complex picture of teaching is most naturally observed in the intact instructional setting. However, that setting may be so complex that the resultant observations become little more than idiosyncratic vignettes of teaching performance. Such collections of observation are especially useful in generating hunches about what teaching performance is controlling what specific aspects of student learning (Ward and Tichoff, 1976).

1. Natural	2. Microteaching	3. Low-Ratio	4. Simulation
Hunch generating possibilities	Group management skills	Individual teaching skills	Planning skills

FIGURE THREE
CONTROL OF PEOPLE

An alternative to intact instructional groups is microteaching, a strategy by which the number of learners is controlled. Some research evidence indicates that observing a teacher's performance when working with groups of 4-8 may be useful for the evidence suggests that teacher performance is nearly 90% similar to that observed in intact classes. Using groups smaller than a complete class enables the researcher to observe repeated samples of teacher performance within smaller time periods.

While microteaching permits observation of nearly all types of teaching performance (both teaching and management skills), low-ratio teaching represents a restriction which minimizes management tasks (if one wishes to observe teaching skills alone). When a teacher is working one-on-one, the energy devoted to management is effectively reduced to near zero. What one can observe then is the teacher's performance with the task and a student. Within these observations, however, the data represent the teacher's performance as influenced by both the task and the physical presence of the student.

A third restriction or control of people is to use simulation. In simulation, there is an intended effort to use a pretend or a controlled situation which in some ways looks like the real situation. The researcher can control in which ways the resemblance to reality is part of the simulation. Thus, through simulation, a teacher's performance can be observed in a completely controlled situation.

Thus, control of the people of the context can range from

-- intact instructional groups

-- microteaching

-- low-ratio teaching

-- simulated activities.

Thus, control of the task and control of the people should be considered whenever teaching performance is to be studied. As shown in Figure 1, the various combinations of these two variables are shown. Usually the most cost-efficient choice of context is represented by the cell closest to the upper right corner of the matrix.

Illustrative Examples

In recent times, several groups have generated lists of generic competency statements. These lists are descriptors of kinds of competencies thought to be important to successful teacher performance. Initial or continued certification for teaching is expected to be dependent on the teacher demonstrating satisfactory performance. A key to this goal of competency based certification is the development of appropriate measures which permit a teacher to display the behavior and for this display of behavior to be evaluated against a predetermined standard. The economic and ethical implications of the task are enormous.

As illustrated in Table One, however, the context required for the behavior to be observed need not be the openness of a natural classroom. In the Georgia Beginning Teacher Assessment Study, these generic competencies have been identified. Their assessment can be both valid and reliable, made with the context restrictions as noted.

Competency	Task Restrictions	People Restrictions
1.00 Instructing		
-- uses instruction techniques, media, methods related to objectives	Preselect topic objectives	Simulation

Since this competence is a "planning task", simulation will provide adequate data. Using preselected topics, objectives will thus enable a teacher to show what variety of activities they can select.

-- communicates with learners	Preselect topic objectives activities	Low-Ratio or Microteaching

Depending on the emphasis in the competency of learner or learners, low-ratio or microteaching will enable the teacher to demonstrate either the teaching skill or the management skill desired. Flexibility rather than variety is needed here so provide topic, objectives and learning activities.

2.00 Providing the Learning Environment		
-- Helps learners develop positive self concept	Preselect topic objectives	Low-Ratio or Microteaching
3.00 Managing Instruction		
-- Adjusts instruction to individual learners and to change in conditions as they arise.	Preselect topic objectives activities	Low-Ratio or Simulation
4.00 Planning Instruction		
-- Specifies or selects teaching procedure for lesson	Preselect topic objectives	Simulation

Table One

ILLUSTRATION OF TEACHER COMPETENCIES

Analysis of the nature of the competencies provides a very useful clue to the variety of contexts that can be used to permit teachers to display their performance.

Just as there is a range of tasks to be observed, there are a variety of observation schemes or category systems that can be used in making these observations. Careful study of the categories of behavior to be observed and recorded suggests that these schemes are useful mainly for observing group management teaching behavior. This suggests either the microteaching or natural class setting. Another common feature as seen in Table Two is that these schemes focus primarily on verbal varieties which means that preselected topics, objectives and activities are essential. Since the variety a teacher may use can be substantially influenced by their teaching task, similarity of task will permit observer to focus on the influence of the teacher's skill in verbal variety and not on differences in task.

Observation System	Purpose	Task Restriction	People Restriction
Amidon - Modified Category System	Flexibility in group interaction	Preselect topic objectives activities	Microteaching
Aschner - Gallager Cognitive class discourse system	Flexibility in group management	Preselect topic objectives activities	Microteaching
Bellach-Language of the classroom	Flexibility in group management	Preselect topic objectives activities	Microteaching
	Variety in learning activities	Preselect topic objectives	Microteaching

Flanders interaction analysis (plus Hall IAST)	Flexibility in group management	Preselect topic objectives activities	Microteaching
Brophy-Goud Dyatic interaction	Flexibility in group management	Preselect topic objectives activities	At least two students
Joyce Instructional Flexibility Training	Flexibility in group management	Preselect topic objectives activities	Microteaching
Medlar Oscar	Flexibility in group management	Preselect topic objectives activities	Microteaching
Linduall Individually prescribed instruction	Variety in learning activities	Preselect topic objectives	Low-Ratio
Smith Logic of teaching	Variety in learning activities	Preselect topic objectives	Low-Ratio

Table Two

ILLUSTRATION OF OBSERVATIONAL SCHEMES

Conclusions

The task of an evaluator is no less complex than that of the teacher. Like teachers, evaluators must determine the purpose of their activity. With a purpose in mind, evaluators can determine the type of data needed and the most effective means of collecting it. There are great strengths in using descriptions of teacher performance as a means for evaluating teachers:

1. Specific inservice or preservice training programs can be planned to remediate deficiencies.
2. Teaching performance profiles can be used to match teachers with learners of particular needs.
3. Tenure or certification decisions can be made based on the demonstration of effective techniques.

Pursuing complete descriptions of teaching performance also is a need in research in teaching.

Using learner performance instead of teacher performance to evaluate teachers is an attractive alternative. "After all, isn't that what schools and teachers are about?" Teachers and schools do work in concert to effect learning. Evaluating teachers using learning outcomes may place an undue amount of responsibility on teachers -- the responsibility of whether "Johnny learns to read" or not. Perhaps if Johnny doesn't learn, the entire system has failed.

Using student performance as a yardstick in a formative sense to devise teacher education programs is of little value. If there are deficiencies, the supervisor must attempt to modify teaching performance to influence change -- and this requires assessing teacher performance. In a summative sense, the "system" fails or passes. Many factors affect the aptitude and achievement of the student. The most obvious is the background. The teacher controls only a few of the factors which determine if Johnny learns -- the teacher's own performance. It is that performance for which the teacher should be accountable.

Since focusing on teacher performance provides the most useful and justifiable information to teachers and their supervisors, it is essential to gather this information in the most efficient means possible. While ongoing intact classrooms seem most natural, there may be so much going on that observation of particular techniques is impossible. Restricting the naturalness of the situation may prove to be a freedom to the evaluator and the teacher. They can be free to focus on the important ingredients of instruction without concern for irrelevant interference. Thus, valid and reliable information obtained in an efficient way is available for formative and summative decisions.